1. (Amended) A catalytic hybridization composition comprising:

a probe containing at least one probe nucleobase sequence and at least one scissile linkage sequence;

an enzyme adapted to cleave said at least one scissile linkage sequence;

$B_2$

a nucleic acid target containing at least one target nucleobase sequence associated with said nucleobase sequence of said probe by Watson-Crick bonding to form a multiplex structure; and

a hybridization medium containing said probe, said enzyme and said nucleic acid target,

wherein at least one of said probe nucleobase sequence and said target nucleobase sequence is double-stranded and is bonded to the other of the probe nucleobase sequence or the target nucleobase sequence solely through Watson-Crick base triplets.

24. (Amended) A method for assaying binding, said method comprising:

$B_3$

providing a probe containing at least one probe nucleobase sequence and at least one scissile linkage sequence;

providing an enzyme adapted to cleave said at least one scissile linkage sequence;

providing a target containing at least one target nucleobase sequence;

combining said probe, said enzyme and said target in a hybridization medium further containing water, a buffer and at least one promoter;

incubating said hybridization medium to hybridize said probe nucleobase sequence to said target nucleobase sequence by Watson-Crick bonding to form a multiplex, wherein at least one of said probe nucleobase sequence and said target nucleobase sequence is double-stranded and is bonded to the other of the probe nucleobase sequence or the target nucleobase sequence solely through Watson-Crick base triplets;

cleaving hybridized probes at said at least one scissile linkage to provide unbound probe fragments; and

detecting said unbound probe fragments to assay binding between said probe and said target.